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10/568,223	02/14/2006	Wolfgang Zirwas	14541680	6270

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EXAMINER	
DAGLAWI, AMAR A	

ART UNIT	PAPER NUMBER
2618	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/568,223	ZIRWAS, WOLFGANG	
	Examiner	Art Unit	
	AMAR DAGLAWI	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☒ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Claims 12-22 are pending in the current communication. The amendment has been entered.

Response to Arguments

1. Applicant's arguments filed on 03/31/200 have been fully considered but they are not persuasive.

2. Applicant argues that Bergel (US 2003/0017835) fails to teach adjusting a symbol parameter of at least a first data symbol to be transmitted from the receiver station to the sending station by way of a second transmitting channel as a function of the channel parameter for communication of the channel parameter to the sending station and that in contract to claim 12, Bergel fails to teach "adjusting a symbol parameter of at least a first data symbol.... as a function of the channel parameter for communication of the channel parameter of the first transmitting channel to the sending station".

3. However, the Examiner respectfully disagrees with the applicant and applies the broadest reasonable interpretation to the claims in accordance with MPEP 2111 without incorporating limitations from the specification into the claims. Thus, Bergel teaches deriving a more accurate estimate from prediction data in closed loop transmit diversity modes where in Fig.1 includes a base station transceiver that communicates with a mobile transceiver over one or more radio links. The channel controller includes a channel estimator 55, a channel predictor 57, and feedback data generator. The

channel estimator 55 provides the channel estimations for the first and second antennas. In turn, the channel predictor predicts respective channel propagation paths from the channel estimations for the first and second antennas. The feedback data generator 60 selects one or more antenna weight values from a predetermined set of weights for the first and second antennas and calculates feedback information (selected weights) to be transmitted over a feedback channel. The channel controller application incorporates a channel estimation algorithm for channel estimation and adaptive channel prediction algorithm for the feedback generator. The mobile transceiver despreads the first and second transmission signals to decorrelate the plurality of pilot symbols that may be embedded in the pilot channels. Using the channel estimation algorithm, the channel controller uses the despread outputs to estimate channel parameters (phase and amplitude) and then they are by the controller to predict future channel state through the adaptive channel prediction and feedback calculation algorithms. The channel prediction algorithm may be trained from the first and second channel estimation terms associated with each antenna to learn channel propagation paths resulting from transmission patterns for any participating antenna of the plurality of the adaptive antennas. Thus, to adjust a future transmission pattern of the transmitter from a particular antenna such as that the first and second antennas, one or more antenna transmission characteristics may be adaptively controlled based on channel prediction terms, a specific antenna weighted value may be selected for that particular antenna for accurately matching of the future state of transmission of the future channel from the particular antenna. A person skilled in the art understands that transmission

characteristics reflects a relative transmission power level of the pilot signal and any adjustment bases on channel estimation parameters reflects adjustment to the pilot symbol parameters (see Fig.1, par[0021-0024], par [0031-0032]. Therefore, upon given the broadest reasonable interpretation the examiner believes that Bergel teaches "adjusting a symbol parameter of at least a first data symbol.... as a function of the channel parameter for communication of the channel parameter of the first transmitting channel to the sending station.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim(s) 12-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Bergel (U.S. Pub. No. 2003/0017835 A1).

Re claim 1, Bergel discloses a method for operating a radio communication system (see fig.1), comprising:

receiving a signal in a receiver station (i.e. mobile transceiver, 14 of fig.1) by way of a first transmitting channel (32a of fig.1) from a sending station (i.e. base station transceiver, 12 of fig.1) (see fig.1, para [0019];[0020]);

determining by the receiver station (i.e. mobile transceiver, 14 of fig.1), a channel parameter (i.e. channel prediction information phase, amplitude) of the first transmitting channel (32a of fig.1) (see fig.1, 4A, para [0021], [0047]); and

adjusted a symbol parameter (i.e. channel prediction information data, calculate weight, estimated channel algorithm, adjusted transmission pattern) of a first data symbol (i.e. feedback data symbol generated by the feedback data generator 60 of fig.2) which is transmitted from the receiver station(14) to the sending station (i.e. base station transceiver, 12 of fig.1) by the way of a second transmitting channel (i.e. feedback transmission channel ,35 of fig.1) as a function of the channel parameter (i.e. based on the channel prediction parameters) for communication to the sending station (i.e. base station transceiver, 12 of fig.1) (see fig.1,2,4, para [0023];[0024]).

Re claim 13, as discussed above with respect to claim 12, Bergel further discloses transmitting the data symbol over the feedback channel (35) from the receiver station (i.e. mobile transceiver, 14 of fig.1) to the sending station (i.e. base station transceiver, 12 of fig.1); and ascertain at the sending station the channel parameter of the first transmitting channel (32a of fig.1) determined by the receiver station (14), based on the prediction data symbol received at the sending station(i.e. base station transceiver, 12 of fig.1) (see fig.1, para [0021];[0024],[0032]).

Re claim 14,15, 16,as discussed above with respect to claim 13, Bergel further discloses the channel parameter of the first transmitting channel (32a of fig.1) is at least one of a phase parameter and an amplitude parameter (see para [0024]); and adjusted includes changed the symbol parameter (prediction information data weight calculated and estimated) of the first data symbol which is transmitted from the receiver station (mobile transceiver 14) to the sending station (i.e. base station transceiver, 12 of fig.1) by at least one of addition and subtraction (by applying algorithm calculation) of a value of the channel parameter of the first transmitting channel (see fig.1,2,4, para [0024];[0032]).

Re claim 16, as discussed above with respect to claim 13,14,15, Bergel further discloses adjusted includes changed the symbol parameter (prediction information data weight calculated and estimated) of the second data symbol (channel estimation of second prediction data) which is transmitted from the receiver station (mobile transceiver 14) to the sending station (i.e. base station transceiver, 12 of fig.1) over the different antenna by at least one of addition and subtraction (by applying algorithm calculation of antenna weight value for future state of channel estimation of channel parameter) of a value of the channel parameter of the first transmitting channel (see fig.1,2,4, para [0026];[0032],[0047]).

Re claim 17,18, as discussed above with respect to claim 16, Bergel further discloses the first and second data symbols transmitted from the receiver station

(mobile transceiver 14 of fig.1) are pilot symbols over pilot channel (see fig.1,2,4, para [0006],[0021];[0024]); and the first and second data symbols transmitted from the receiver station (mobile transceiver 14 of fig.1) are user data of channel estimation (see fig.1,2,4, para [0021];[0024]).

Re claim 19, as discussed above with respect to claim 16, Bergel further discloses a plurality of available transmitting channels (channel 32a, 32b) exist for transmission from the sending station (i.e. base station transceiver, 12 of fig.1) to the receiver station (i.e. mobile station transceiver, 14 of fig.1) and said receiving, determining, adjusting, transmitting and ascertaining are repeated using each of the available transmitting channels as the first transmitting channel (see fig.1,2,4, para [0021];[0026]).

Re claim 20, as discussed above with respect to claim 19, Bergel further discloses the receiver station has a receiving antenna (26 of fig.1) and the sending station (i.e. base station transceiver, 12 of fig.1) has a plurality of sending antennas (plurality antennas 30(1)...30(m) of fig.1) and one of the first transmitting channels (32a of fig.1) is in each case situated between one of the sending antennas (30(1)) and one of the receiving antennas (26) (see fig.1,5, para [0022],[0023]).

Re claim 21, Bergel discloses a receiver station (i.e. mobile transceiver, 14 of fig.1) for radio communication system having a sending station (i.e. base station transceiver, 12 of fig.1) (see fig.1, para [0019]; [0020]) comprising:

receiving unit (i.e. mobile transceiver, 45 of fig.2) receiving a signal from a sending station (i.e. base station transceiver, 12 of fig.1) by way of a first transmitting channel (32a of fig.1) (see fig.1, para [0019];[0020]);

determination unit (i.e. channel control unit 24 of fig.2) by the receiver station (i.e. mobile transceiver, 14 of fig.1), a channel parameter (i.e. channel prediction information phase, amplitude) of the first transmitting channel (32a of fig.1) (see fig.1, 4A, para [0021], [0047]); and

adjusting unit (i.e. channel estimator unit, 55 o fig.2) changing data symbol parameter (i.e. channel prediction information data, calculate weight, estimated channel algorithm, adjusted transmission pattern) of a first data symbol (i.e. feedback data symbol generated by the feedback data generator 60 of fig.2) which is transmitted from the receiver station(14) to the sending station (i.e. base station transceiver, 12 of fig.1) by the way of a second transmitting channel (i.e. feedback transmission channel ,35 of fig.1) as a function of the channel parameter (i.e. based on the channel prediction parameters) for communication to the sending station (i.e. base station transceiver, 12 of fig.1) (see fig.1,2,4, para [0023];[0024],[0035],[0058]).

Re claim 22, Bergel discloses a sending station (i.e. base station , 12 of fig.1) for radio communication system having a receiver station (i.e. mobile transceiver, 14 of fig.1) (see fig.1, para [0019];[0020]) comprising:

transmitter unit (i.e. mobile transceiver, 12 of fig. 1) sending a signal by way of a first transmitting channel (32a of fig.1) to the mobile station (14 of fig.1) (see fig.1, para [0019];[0020]);

a receiver unit (217 of fig.6) receiving signal from the receiver station (14) at least one data symbol having a symbol parameter (feedback information) adjusted for communication of a channel parameter of the first transmitting channel (32a of fig.1) as a function of the at least one channel parameter (data symbol, channel weight); an ascertainment unit (220 of fig.6) ascertaining the channel parameter (weight generation ,calculation) based on the at least one data symbol (feedback data information) received from the receiver unit (i.e. mobile station 14 of fig.1) (see fig.1,2,4B,6 and para [0024],[0033],[0053];[0055]).

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMAR DAGLAWI whose telephone number is (571)270-1221. The examiner can normally be reached on Monday- Friday (7:30 AM- 5:00 AM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NGUYEN DUC can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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